GATITU SECONDARY SCHOOL, P.O. BOX 327 – 01030, GATUNDU.

FORM 4 PHYSICS MID TERM EXAMINATION. TERM 1 2015.

1.a ball hits a vertical wall at a velocity of 20m/s and bounces off at the same velocity. Determine the change in velocity. (3mks

2. Sketch speed – time graphs for

a) Stationary body (2mks

b) A body moving with uniform speed. (2mks

c) A body accelerating. (2mks

3. Define refraction of light. (2mks

4. Determine the refractive index for light travelling from glass to air given that $an_g = 1.5$ (2mks

5. State Newton's first law of motion. (2mks

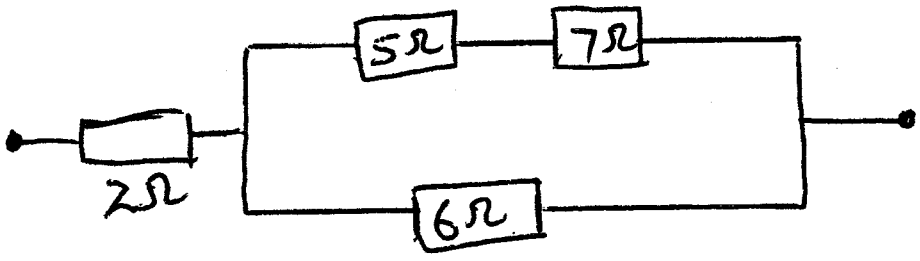
6. A gas cylinder containing 20kg of compressed gas empties in 40 minutes when the valve is opened. If the gas comes out from the exit nozzle with an average velocity of 60m/s. find the force exerted on the cylinder. (3mks

7. Define work and give its SI Units. (3mks

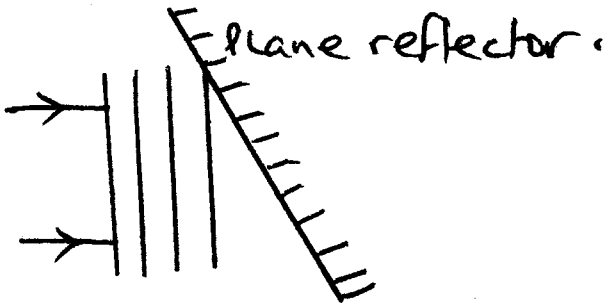
8. A body of mass 20kg is raised to a height of 9m. Calculate its potential energy at that height. (3mks

9. State three factors that affect the resistance of a metallic conductor. (3mks

10. Calculate the effective resistance in the figure. (3mks



11. The diagram below shows parallel water waves sketch on the diagram. What happens when the waves meet a plane reflector shown? (3mks



12. A radio station broadcasts at a frequency of 96.4MH$_z$. If C = 3.0 x 10^8 ms^{-1} determine its wavelength. (2mks

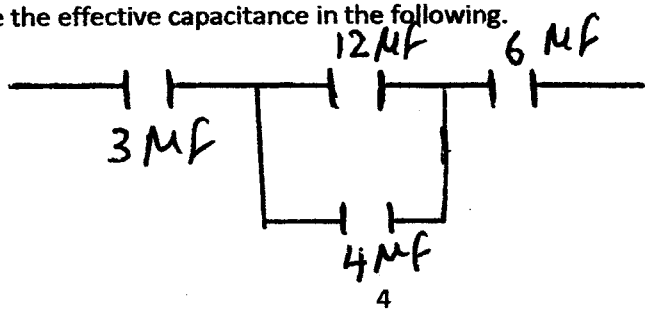
13. Mwalimu was teaching about capacitors and wrote the following equation on the board Q = CV. Give the meaning of each symbol in the equation. (3mks

Q

C

V

14. Calculate the effective capacitance in the following. (4mks



c) Its specific heat capacity. (2mks

20. In an experiment to study the effect of temperature on a fixed mass of a gas at constant pressure the results are displayed in the table below.

Volume (cm^3)	40	-	-	25	20
Temperature (°c)	-	205	-136	-	0

(4mks

Fill in the missing results

21. An object 10cm high is placed 25cm from a converging lens of focal length 10cm. Determine the position, size and nature of the image. (3mks

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